

THE UNITED STATES OF AMERICA

To aux to whom these tresents shan come: Honrd of Regents University of Aebraska

MICEPUS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE MAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE BAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE HIT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR TING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SEED AND (2) SHALL CONFORM TO THE NUMBER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEO.)

WHEAT, COMMON

'Infinity CL'

In Testimonn Microst, I have hereunto set my hand and caused the seal of the Mant Mariety Frotection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of September, in the year two thousand and six.

Attest:

Commissioner

Commissioner Plant Variety Protection Offic

Agricultural Markoting Sorvice

(See reverse for instructions and information collection burden statement)

2006 00 172

GENERAL INSTRUCTIONS: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1 Completed application form signed by the owner; (2) completed exhibits A, B, C, E, F; (3) for a tuber reproduced variety, verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; and (4) payment by credit card or check drawn on a U.S. bank for \$4,382 (\$518 filling fee and \$3,864 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). NEW: With the application for a seed reproduced variety or by direct deposit soon after filling, the applicant must provide at least 3,000 viable untreated seeds of the variety per se, and for a hybrid variety at least 3,000 untreated seeds of each line necessary to reproduce the variety. Partial applications will be held in the PVPO for not more than 90 days; then returned to the applicant as un-filed. Mall application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initiated and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a payment by credit card or check payable to "Treasurer of the United States" in the amount of \$768 for issuance of the certificates will be issued to owner, not licensee or agent.

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

General E-mail: PVPOmail@usda.gov

Homepage: http://www.ams.usda.gov/science/pvpo/PVPindex.htm

SPECIFIC INSTRUCTIONS:

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and **provide evidence** that the permanent name of the application variety (even if it is a parental, inbred line) has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: U.S. Department of Agriculture, Agricultural Marketing Service, Livestock and Seed Programs, **Seed Regulatory and Testing Branch**, 801 Summit Crossing Place, Suite C, Gastonia, North Carolina 28054-2193 Telephone: (704) 810-8870. http://www.ams.usda.gov/lsg/seed.htm,

ITEM

19a. Give:

- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;

(3) evidence of uniformity and stability, and

- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - (1) identify these varieties and state all differences objectively;
 - (2) attach replicated statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 20. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.
- 22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

 September 2004 First allocation of foundation

September 2005 First sale of certified seed

seed of unrelated cultivar with intent to increase

for public sale

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number for this information collection is 0581-0055. The time required to complete this information is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require afternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Reply to Letter of April 8, 2006 re: Application 200600172 Infinity CL

Question 23: The correct answer should have been: Yes
The first sale/transfer of Infinity CL was as Foundation Seed for seed increase in September
2005. The first commercial sale of certified seed to the public will be in August 2006. The
actual date of release for Infinity CL was April 11, 2005. My understanding is that the certified
seed sale is the date of record for the first public transfer and sale of Infinity CL.

Question 24: The correct response should have been: YES Infinity CL is protected by a BASF patent on the *als1* gene.

Exhibit A. Origin and Breeding History

Infinity CL was selected from the cross 'Windstar' (Baenziger et al., 1998)//'Millennium' (Baenziger et al., 2001) sib/'Above' sib. The cross between the Millennium sib (formerly NE94481) and the Above sib (TXGH12588-120*4/FS2) was made in the spring of 1997. The final cross to Windstar was made in fall, 1997. The FS2 (syn. FS4) line contains a single gene at the als1 locus for acetolactate synthesis, which conveys tolerance to imidazolinone herbicides. The F₁ plants were grown in the greenhouse in 1998 and the F₂ population was grown as a bulk in the field at Lincoln, NE in 1998-1999 where random heads were selected prior to harvest. The initial F₃ selection was made in 1999-2000 in the head row nursery in Lincoln, NE, which was sprayed with imazamox (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1*H*-imidazol-2-yl]-5-(methoxymethyl)-3-pyridinecarboxylic acid) BASF Corp., Triangle Park, NC). The first observation (F₄) plot was grown in at Lincoln, NE in 2000-2001. From 2001 and thereafter, the line was grown in replicated yield trials in Nebraska without imazamox applications to allow comparisons to herbicide susceptible lines. Infinity CL is an F2-derived line that was selected in the F₄ generation. The criteria for selection were: a) adequate winterhardiness for propagation in Nebraska, b) resistance to *Puccinia graminis* (the causal agent of stem rust), c) agronomic performance equal to or superior to commonly grown wheat varieties, d) acceptable end-use CL was evaluated as NH01046 in Nebraska yield nurseries starting in 2002, and in Nebraska and Wyoming cultivar performance trials in 2003 to 2004. In the Nebraska cultivar performance trials, it has performed well throughout most of Nebraska.

Infinity CL was named and officially released in April, 2005 by the Nebraska Agricultural Experiment Station and the Agricultural Research Service, U.S. Department of Agriculture. The first public sale of Certified seed was in September, 2005.

Infinity CL has been uniform and stable since 2003. Beginning in 2001, all seed increases were sprayed with imazamox to insure Infinity CL was homogeneous for herbicide tolerance. The Breeder seed originated from an F₅ bulk that was rogued each generation as the experimental line progressed towards release. Less than 0.5 % of the plants were rogued from the Breeder seed increase in 2004. The rogued variant plants were taller in height (10 - 15 cm) or were awnless with red chaff. Up to 1% (10:1000) of such variant plants may be encountered in subsequent generations. Mr. Roger Hammons provided technical assistance in describing the cultivar characteristics and accomplishing technology transfer. The Nebraska Foundation Seed Division, Agricultural Research Division, University of Nebraska-Lincoln, Lincoln, NE 68583 has Foundation seed available to companies or marketing groups that hold a marketing license from BASF. The U.S. Department of Agriculture will not have seed for distribution. The seed classes will be Breeder, Foundation, Registered, and Certified. The variety, Infinity CL, contains a patented herbicide tolerance trait owned by BASF that confers tolerance to imidazolinone herbicides, such as imazamox. Any use of this variety requires a Material Transfer Agreement (for research use only) or a Seed Commercialization and License agreement with BASF, as well as permission from the variety originator. Contact the Department of Agronomy and Horticulture, University of Nebraska-Lincoln for all seed requests; no seed will be distributed without written permission from both BASF and the University of Nebraska for at least 20 years from April 11,2005.

Exhibit B. Novelty Statement--Revised

To our knowledge, Infinity CL most nearly resembles in appearance the hard red winter wheat cultivar, Windstar, but can be distinguished by the following characteristics:

- 1. Infinity CL contains the *als1* gene and is tolerant (survives to being sprayed at the recommended (35 g ai ha⁻¹) and twice (71 g ai ha⁻¹) the recommended rate of imazamox application) to the imidazolinone herbicide; whereas, Windstar lacks the *als1* gene and is susceptible (is stunted and then dies).
- 2. Infinity CL has beaks that are glaborous, but he upper glume and shoulder are lightly pubescent, while Windstar has glaborous beaks, upper glumes, and shoulders.

REPRODUCE LOCALLY. Include form number and date on all reproductions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid CMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, mantal or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require elternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY

	Wheat (<i>Friticum</i> spp.)	
NAME OF APPLICANT (8) Board of Regents University of Nebraska	TEMPORARY OR EXPERIMENTAL DESIGNATION NH01046	VARIETY NAME Infinity CL
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country) Lincoln, NE 68583-0745		PVPO NUMBER 2006 00 172
PLEASE READ ALL INSTRUCTIONS CAREFULLY	<i>!</i> :	
when number is either 99 or less or 9 or less respect	etal character of this variety in the boxes below. Place a fively. Data for quantitative plant characters should be became trial. Royal Horticultural Society or any recognized. Please answer all questions for y	pased on a minimum of 100 plants. Comparative data
1. KIND: 1 = Common 2 = Durum 3 = Club 4 = Other (Specify)	2. VERNALIZATION: 2 1 = Spring 2 = Winter 3 = Other (5	Specify)
3. COLEOPTILE ANTHOCYANIN: 1 = Absent 2 = Present	4. JUVENILE PLANT G	
5. PLANT COLOR: (boot stage) 1 = Yellow-Green 2 = Green 3 = Blue-Green	6. FLAG LEAF: (boot st 1	2 = Recurved sted 2 = Twisted
7. EAR EMERGENCE: 1 4 3 Number of Days (Average) after Number of Days Earlier Than * Same As * Number of Days Later Than * **********************************	Jan. 1 Pronghorn Pelative to a PVPO-Approved Commercial Variety Grow	n in the Same Trial

1	1 = Yellow	2 = Purple
	I - I CHOW	2 - Fulpic

9. PLANT HEIGHT: (from soil to top of head, excluding awns)		•		
8 7 cm (Average)			2006	00172
8 cm Taller Than Wesley		*		After all 150 comme
		*		•
Same As				•
cm Shorter Than Millennium		*		
10. STEM:				
·		D. INTERNODE	•	
A. ANTHOCYANIN	r		0 – Camai antid 2 –	Solid
1 = Absent 2 = Present		1 = Hollow		3010
		Number of Nodes	•	
B. WAXY BLOOM		E. PEDUNCLE		
2 1 = Absent 2 = Present light		1 = Erect 2 = 1	Recurved 3 = Semi-erec	ot
		1 8 cm Length		
C. HAIRINESS (last internode of rachis)	•	F. AURICLE	•	
1 = Absent 2 = Present		1 Anthocyanin:	1 = Absent 2 =	Present
		1 Hair:	1 = Absent 2 =	Present
11. HEAD: (At Maturity)				
A. DENSITY		C. CURVATURE		
1 = Lax		1 = Erect		•
2 = Middense (Laxidense) 3 = Dense		2 = Inclined 3 = Recurved		
		D. AWNEDNESS	•	
B. SHAPE		,		
1 = Tapering 2 = Strap		1 = Awnless 2 = Apically Awn	letted	•
3 = Clavate 4 = Other (Specify)		3 = Awnletted 4 = Awned		N.
- Calor (Option)/	·····			
12. GLUMES: (At Maturity)	·			
A. COLOR		E. BEAK WIDTH		
1 = White		1 = Narrow		
2 = Tan 3 = Other (Specify)		2 = Medium 3 = Wide		
		F. GLUME LENGTH		
B. SHOULDER				
1 = Wanting 2 = Oblique 3 = Rounded 4 = Square		2 1 = Short (ca. 7n 2 = Medium (ca.	8mm)	•
5 = Elevated 6 = Apiculate 7 = Other (Specify)	•	3 = Long (ca. 9m	ım)	·
C. SHOULDER WIDTH		G. WIDTH		
		1 1 = Narrow (ca. :	3mm)	
1 = Narrow 2 = Medium		2 = Medium (ca.	3.5mm)	
3 = Wide		3 = Long (ca. 4m	H11)	
D. BEAK				
1 = Obtuse 2 = Acute				
3 = Acuminate			•	

13. SEED:	onne an 170
A. SHAPE	E. COLOR 2006 00 172
1 = Ovate 2 = Oval 3 = Elliptical	1 = White 2 = Amber 3 = Red 4 = Other (Specify)
B. CHEEK	F. TEXTURE
1 = Rounded 2 = Angular	1 = Hard 2 = Soft 3 = Other (Specify)
C. BRUSH	G. PHENOL REACTION (See Instructions)
1 = Short 1 Not Collared 2 = Medium 2 = Collared 3 = Long	1 = Ivory 4 = Dark Brown 2 = Fawn 5 = Black 3 = Light Brown
D. CREASE	H. SEED WEIGHT
1 = Width 60% or less of Kernel 2 = Width 80% or less of Kernel 3 = Width Nearly as Wide as Kernel	g/1000 Seed (Whole number only)
1 = Depth 20% or less of Kernel 2 = Depth 35% or less of Kernel 3 = Depth 50% or less of Kernel	I. GERM SIZE 1 = Small 2 = Midsize 3 = Large
14. DISEASE: PLEASE INDICATE THE SPECIFIC RACE OR STRA	IN TESTED
(0 = Not Tested 1 = Susceptible	2 = Resistant 3 = Intermediate 4 = Tolerant)
2 Stem Rust (Puccinia graminis f. sp. tritici)	2 Leaf Rust (Puccinia recondita f. sp. tritici)
2 Stripe Rust (Puccinia striiformis)	O Loose Smut (Ustilago tritici)
Tan Spot (Pyrenophora tritici-repentis)	O Flag Smut (Urocystis agropyri)
Halo Spot (Selenophoma donacis)	O Common Bunt (Tilletia tritici or T. laevis)
O Septoria nodorum (Glume Blotch)	O Dwarf Bunt (Tilletia controversa)
Septoria avenae (Speckled Leaf Disease)	O Karnal Bunt (Tilletia indica)
Septoria tritici (Speckled Leaf Blotch)	O Powdery Mildew (Erysiphe graminis f. sp. tritici)
O Scab (Fusarium spp.)	O "Snow Molds"
0 "Black Point" (Kernel Smudge)	O Common Root Rot (Fusarium, Cochliobolus and Bipolaris spp.)
1 Barley Yellow Dwarf Virus (BYDV)	Rhizoctonia Root Rot (Rhizoctonia solani)
Soilborne Mosaic Virus (SBMV)	Black Chaff (Xanthomonas campestris pv. translucens).
Wheat Yellow (Spindle Streak) Mosaic Virus	Bacterial Leaf Blight (Pseudomonas syringae pv. syringae)
Wheat Streak Mosaic Virus (WSMV) - low leve	Other (Specify)
Other (Specify) tolerance	Of Other (Specify)
Other (Specify)	Other (Specify)
Other (Specify)	Other (Specify)
	Line 1 N-1-1-1/
15. INSECT: (0 = Not Tested 1 = Susceptible 2 = Resistant	3 = Intermediate 4 = Tolerant)
PLEASE SPEC	IFY BIOTYPE (where needed)
Hessian Fly (Mayetiola destructor)	Other (Specify) Russian Wheat Aphid
Stem Sawfly (Cephus spp.)	Other (Specify)
Cereal Leaf Beetle (Oulema melanona)	Other (Specify)

2006 00 1 7 2 Exhibit C (Wheat)

		PLEASE SPECIFY BIOTYP	E (Where Needed)	
1 Russian Aphid (Diurap	ohis noxia)	Othe	r (Specify)	
Greenbug (Schizaphis	s graminum)	Othe	r (Specify)	
O Aphids		Othe	r (Specify)	 <u> </u>

16. ADDITIONAL INFORMATION ON ANY ITEM ABOVE, OR GENERAL COMMENTS:

10. STEM INTERNODE X-SECTION: 11. SPIKE SHAPE: 4. EARLY PLANT GROWTH HABIT: Solid Hollow Semi-solid 2 Intermediate Erect Prostrate 12. BEAK SHAPE: 11. AWNEDNESS: Oblong Clavate Elliptical Tapering Obtuse Acute Acuminate 12. SHOULDER SHAPE: Awnless Apically Awnleted Awned Awnleted Elevated Apiculate Wanting Oblique Rounded Square 13. BRUSH HAIR LENGTH: 13. BRUSH SIZE 13. SEED SHAPE: 13. CHEEK SHAPE: AngulaR Rounded Ovate Oval Elliptical Medium Short Long Small Midsized Large Collared 13. SEED CREASE DEPTH: 13. GERM (EMBRYO) SIZE: 13. SEED CREASE WIDTH: Deep Shallow Wide Narrow Mid-wide Midsized Small Large

Exhibit D. Additional Description of the Variety--Revised.

Infinity CL is an awned, white-glumed cultivar. Its field appearance is most similar to Windstar. After heading, the canopy is moderately open and upright. The flag leaf is erect and twisted at the boot stage. The foliage is dark green with a waxy bloom on the flag leaf, leaf sheath, and spike at anthesis, though less so than for Windstar. The leaves are pubescent. The spike is tapering in shape, narrow, mid-long to long, and middense. The glume is narrow and midwide, and the glume shoulder is narrow and square. The beak is medium in length with an acuminate to acute tip. The spike is erect at maturity. Kernels are red colored, hard textured, and ovate in shape. The kernel is collarless with a large brush of medium length, rounded cheeks, large germ, and a narrow and mid-deep crease.

The average Nebraska rainfed yield of Infinity CL of 3870 kg ha⁻¹ (27 environments from 2003 to 2004) was lower than the yield of 'Wesley' (3990 kg ha⁻¹; Peterson et al., 2001), but was similar to that of Millennium (3860 kg ha⁻¹), and higher than 'Wahoo' (3790 kg ha⁻¹; Baenziger et al., 2002), and 'Alliance' (3620 kg ha⁻¹; Baenziger et al. 1995). The average Wyoming rainfed yield of Infinity CL of 2220 kg ha⁻¹ (5 environments from 2003 to 2004) was lower than 'Goodstreak' (2350 kg ha⁻¹; Baenziger et al., 2004a), but was similar to 'Buckskin' (2280 kg ha⁻¹; Schmidt et al., 1976) and higher than Above (2080 kg ha⁻¹). Infinity CL has acceptable performance under irrigation, but other wheat cultivars with superior performance, especially with better straw strength (described below), would be recommended. Infinity CL was tested for herbicide tolerance at the recommended (35 g ai ha⁻¹) and twice (71 g ai ha⁻¹) the recommended rate of imazamox application in 2004 in 6 environments and performed similarly to Above for herbicide tolerance as determined by visual signs of injury or change in flowering date after herbicide application.

Infinity CL is medium in maturity (flowering 143 d after Jan.1, 4 environments), about 3 d and 0.6 d later than 'Pronghorn' (Baenziger et al., 1997) and Wesley, respectively. Infinity CL is a semi-dwarf wheat cultivar. Infinity CL has a medium short coleoptile (45 mm), as expected for a semi-dwarf wheat cultivar and is shorter than Goodstreak (61 mm) and slightly longer than the semi-dwarf wheat cultivars such as 'Harry' (36 mm; Baenziger et al., 2004b). The mature plant height of Infinity CL (87 cm, 27 environments) is 1 cm shorter than Millennium and 8 cm taller than Wesley. In Wyoming, the height of Infinity CL (56 cm) was 5 and 7 cm shorter than the conventional wheats Goodstreak and Buckskin, respectively, and 3 cm taller than the semi-dwarf Above. Infinity CL has moderate straw strength (44% lodged), similar to Wahoo (46%), but weaker than Wesley (34% lodged) in those environments where lodging was noted (3 environments). The winter hardiness of Infinity CL is good to very good and comparable to other winter wheat cultivars adapted to and commonly grown in Nebraska.

Infinity CL is resistant to stem rust (caused by *Puccinia graminis Pers.: Pers. f. sp. tritici* Eriks & E. Henn) [most likely containing genes *Sr6*, *Sr10* or *Sr17* (which alone are no longer effective) and *Sr24* data provided by Y. Jin at the USDA Cereal Disease Laboratory]. It is also resistant to leaf rust (caused by *P. triticina* Eriks.) (data obtained from field observations), and stripe rust (caused by *P. striiformis* Westendorp f. sp. tritici) (data obtained from field observations in NE). Seedlings are susceptible to Hessian fly (*Mayetiola destructor* Say) (data for tests using the Great Plains biotype provided by Ming-Shun Chen, USDA and Kansas State University) and wheat soilborne mosaic virus, but may contain a low level of tolerance to wheat

streak mosaic virus (data obtained from field observations in NE).

Infinity CL has good grain volume weight (76.2 kg m⁻³, 27 environments), which is lower than Millennium (76.5 kg m⁻³), but higher than Wesley (74.6 kg m⁻³), Wahoo (74.1 kg m⁻³), and Alliance (75.7 kg m⁻³). Under the drier conditions of Wyoming (4 environments), Infinity CL maintained acceptable grain volume weight (74.4 kg m⁻³), which was lower than Buckskin (75.9 kg m⁻³), and Goodstreak (75.9 kg m⁻³), and slightly higher than Above (74.2 kg m⁻³). The milling and baking properties of Infinity CL were determined for two years by the Nebraska Wheat Quality Laboratory. In these tests, Millennium was used as a check cultivar. The average wheat and flour protein content of Infinity CL (128 and 113 g kg⁻¹) were lower than those of Millennium (142 and 127 g kg⁻¹). The average flour extraction on the Buhler Laboratory Mill for Infinity CL (707 g kg⁻¹) was lower than that of Millennium (718 g kg⁻¹). The flour ash content of Infinity CL (4.6 g kg⁻¹) was similar to that of Millennium (4.6 g kg⁻¹). Dough mixing properties of Infinity CL were acceptable and stronger than those of Millennium as determined by a Mixograph. Average bake water absorption of Infinity CL (620 g H₂O kg⁻¹ flour) was similar to that of Millennium (615 g H₂O kg⁻¹ flour). The average loaf volume of Infinity CL (885 cm³) was less than Millennium (925 cm³). The scores for the internal crumb grain and texture were good, which were slightly better than those of Millennium. The overall end-use quality characteristics for Infinity CL should be acceptable to the milling and baking industries.

In positioning Infinity CL, it has performed extremely well throughout most of Nebraska and Wyoming in rainfed production systems. Infinity CL is genetically complementary to '2137' (Sears et al., 1997a), Alliance, Buckskin, 'Jagger' (Sears et al., 1997b), and Pronghorn. It is non-complementary to Windstar, Above, 'Agripro 502 CL', 'TAM 110' (Lazar et al., 1997), Arapahoe, 'Culver' (Baenziger et al., 2000), Millennium, 'Niobrara' (Baenziger et al., 1996), and 'Vista' (Baenziger et al., 1993).

REPRODUCE LOCALLY. Include form number and edition date on all	reproductions. F	ORM APPROVED - OMB No. 0581-0055
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	Application is required in order to detect certificate is to be issued (7 U.S.C. 24 confidential until the certificate is issued.	(21). The information is held
NAME OF APPLICANT(S) Board of Regents	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
University of Nebraska	NH01046	Infinity CL
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (Include area code)	6. FAX (Include area code)
	402-472-7211	402-472-7904
	7. PVPO NUMBER	
Lincoln, NE 68583-0745	20	06 00 172
8. Does the applicant own all rights to the variety? Mark an "X" in the	e appropriate block. If no, please expla	in. YES NO
9. Is the applicant (individual or company) a U.S. national or a U.S. ba	and company? If no give name of co	ountry. YES NO
e. is the applicant (individual of company) a 0.3. hational of a 0.3. bi	aseu company: 14 no, give name of co	
10. Is the applicant the original owner? YES	NO If no, please answer one	of the following:
a. If the original rights to variety were owned by individual(s), is (a	are) the original owner(s) a U.S. Nationa NO If no, give name of count	
b. If the original rights to variety were owned by a company(ies),	is (are) the original owner(s) a U.S. bas	
11. Additional explanation on ownership (Trace ownership from origin	nal breeder to current owner. Use the re	everse for extra space if needed):
SEI	E ATTACHED	
		•
	•	
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not licens	ees) who meet the following criteria:	
 If the rights to the variety are owned by the original breeder, that penational of a country which affords similar protection to nationals of 	erson must be a U.S. national, national the U.S. for the same genus and speci	of a UPOV member country, or es.
If the rights to the variety are owned by the company which employ nationals of a UPOV member country, or owned by nationals of a c genus and species.	red the original breeder(s), the company country which affords similar protection t	must be U.S. based, owned by o nationals of the U.S. for the same
3. If the applicant is an owner who is not the original owner, both the	original owner and the applicant must m	eet one of the above criteria.
The original breeder/owner may be the individual or company who dir Act for definitions.	ected the final breeding. See Section 4	1(a)(2) of the Plant Variety Protection

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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Exhibit E. Statement of the Basis of the Applicant's Ownership

The University of Nebraska is the applicant for protection in the case of Infinity CL hard red winter wheat being the variety for which Plant Variety Protection is hereby sought was developed by Drs. P.S. Baenziger, A. Martin, D. Lyon, and B. Beecher, employees of the University of Nebraska, and R. A. Graybosch, employee of the USDA-ARS. By agreement between employees of the University of Nebraska and by agreement between USDA-ARS and the University of Nebraska, all rights to any variety made by employees while employed by the University of Nebraska or by the USDA-ARS employees stationed at the University of Nebraska are assigned to the University of Nebraska, with no rights of any kind to Infinity CL being retained by the employees.

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> U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY PLANT VARIETY PROTECTION OFFICE BELTSVILLE, MD 20705

EXHIBIT F LABATION REGARDING DEPOSIT

NAME OF OWNER (\$)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	TEMPORARY OR EXPERIMENTAL DESIGNATION NHO1046	
Board of Regents University of Nebraska	Lincoln, NE 68583-0745	VARIETY NAME	Infinity CL
NAME OF OWNER REPRESENTATIVE (S)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	FOR OFFICIAL USE C	DNEY COLUMN TO THE STATE OF THE
		PVPO NUMBER	00172

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.